

Claims

1.-11. (canceled)

12. (new) A fuel cell, comprising a separator disposed between two electrolyte-electrode units, wherein

the separator is formed from two plates each having an embossing and touching at contact surfaces, wherein

a first fluid chamber for a coolant is formed between the two plates and a second fluid chamber for a gas is formed between each plate and the adjacent electrolyte-electrode unit in each case, wherein

the first fluid chamber for the coolant has two subchambers each facing one of the two plates and wherein the coolant can only flow alternately through the two subchambers.

13. (new) The fuel cell according to claim 12, wherein the plates have at least approximately identical embossings.

14. (new) The fuel cell according to claim 12, wherein the embossings are formed as essentially circular depressions.

15. (new) The fuel cell according to claim 13, wherein the embossings are formed as essentially circular depressions.

16. (new) The fuel cell according to claim 14, wherein the embossings of the plates are offset relative to one another.

17. (new) The fuel cell according to claim 12, wherein the embossings of the plates are essentially rib-shaped.

18. (new) The fuel cell according to claim 13, wherein the embossings of the plates are essentially rib-shaped.

19. (new) The fuel cell according to claim 17, wherein the embossings of the plates are rotated relative to one another.

20. (new) The fuel cell according to claim 12, wherein the contact surfaces are gold-plated.

21. (new) The fuel cell according to claim 13, wherein the contact surfaces are gold-plated.

22. (new) The fuel cell according to claim 12, wherein the contact surfaces are distributed at least approximately uniformly over the surface of the separator.

23. (new) The fuel cell according to claim 13, wherein the contact surfaces are distributed at least approximately uniformly over the surface of the separator.

24. (new) The fuel cell according to claim 12, wherein the total surface area of the contact surfaces is at least 10% of the surface area of the separator.

25. (new) The fuel cell according to claim 13, wherein the total surface area of the contact surfaces is at least 10% of the surface area of the separator.

26. (new) The fuel cell according to claim 12, wherein the total surface area of the contact surfaces is no more than 90% of the surface area of the separator.

27. (new) The fuel cell according to claim 13, wherein the total surface area of the contact surfaces is no more than 90% of the surface area of the separator.

28. (new) A fuel cell with a separator disposed between two electrolyte-electrode units, which separator is formed from two plates each having an embossing and touching at contact surfaces, a fluid chamber for a coolant being formed between the two plates and a fluid chamber for a gas being formed between each plate and the adjacent electrolyte-electrode unit in each case, wherein the fluid chamber for the coolant has two subchambers each facing a plate and wherein coolant can only flow through said fluid chamber alternately through the two subchambers.

29. (new) A heating device of a fuel cell, having a flow directing element disposed between opposite edge plates, wherein the flow directing element is formed as a heating element from two plates each having an embossing, a flow chamber being formed between the heating element and an edge plate in each case and another flow chamber being formed between the plates, the last mentioned flow chamber having subchambers each facing a plate, which subchambers provide a flow path solely on an alternating basis.

30. (new) The heating device according to claim 29, wherein the fuel cell is a fuel cell according to claim 12.